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ABSTRACT

A computer mouse is an input device that is most often used with a personal computer. Moving a mouse along a flat surface can move the on-screen cursor to different items on the screen. Today, many computer mice use wired and wireless technology and have no wire. This Dual Function Mouse developed caused by problems faced by computer mice's users while using the existing device where, the wireless mouse's batteries run out of power accidently in the middle of their activities. Moreover, they need to stop their work or activities and spend money to buy new batteries. It will caused more money spend in a long term period. Besides that, wired mouse's users need to purchase a new wired mouse when the mouse's cable gets broken. Accordingly the problem statement, Dual Function Mouse developed to improve the quality and users performance in doing their activities such as doing work, playing computer games, and so on.

ABSTRAK

Tetikus komputer merupakan perantiinput yang paling kerap digunakan dengan komputer peribadi. Menggerakkan tetikus di sepanjang permukaan yang rata boleh menggerakkan kursor pada skrin untuk item yang berbeza pada skrin.Hari ini, ramai tikus komputer menggunakan teknologi berwayar dan tanpa wayar dan tidak mempunyai wayar. Ini Fungsi Dual Mouse dibangunkan disebabkan oleh masalah yang dihadapi oleh pengguna tikus komputer semasa menggunakan peranti yang sedia ada di mana, bateri tetikus tanpa wayar kehabisan kuasa sengaja di tengah-tengah aktiviti mereka.Selain itu, mereka perlu berhenti kerja atau aktiviti-aktiviti mereka dan menghabiskan wang untuk membeli bateri baru. Ia akan menyebabkan lebih banyak wang dibelanjakan dalam tempoh jangka panjang. Selain itu, pengguna tetikus berwayar yang perlu membeli tetikus berwayar baru apabila kabel tetikus yang mendapat rosak. Oleh itu pernyataan masalah, Fungsi Dual Mouse dibangunkan untuk meningkatkan prestasi kualiti dan pengguna dalam melakukan aktiviti-aktiviti mereka seperti melakukan kerja, bermain permainan komputer,dan sebagainya.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Project engineering Dual Function Mouse is system will be develop to help and make it easier to computer's user in doing their activities or work without any disturbing issues. In a meantime, it will reduce time and work performance due to less distraction from existing computers mouse.

Wireless mouse and wired mouse is the examples of peripherals device that control cursor on computers or laptop that contain graphic user interface (GUI) in terms of delivering the output of the system or software. These two types of devices need a medium to transfer data to the workstation that been mentioned above either through USB wired cable or through radio frequency.

The purpose of the project is to combine the function of these two devices into one device and also the battery can be recharge while using the device. This project can help computer users to perform well while doing their work using computers or laptop by reducing the problem. There are several problem that have been faced by computer's users in term of existing device functioning.

1.2 PROBLEM STATEMENT

The problem issues arise based on user experience with the current computers mouse device either it is wireless or wired. Dual Function Mouse will be developed based on the problem below.

There are 3 problems that's need to be state accordingly to user experienced.

Wireless Mouse

i. The pointing device stops working after several minutes of use.
ii. The battery is run out of power while using it.
iii. The signal interference distract by others wireless signal.

Wired Mouse

i. The wired cable gets stuck with other things while doing gaming activities which causes you to tug, pull, and reposition the USB cable.
ii. The range is limit by the wired cable.
iii. The user need to roll the cable whenever their moves to another place especially for laptop's user

1.3 OBJECTIVE

The implementation of this project is expected to reach the following objectives:

i. To enhance the existing computer wireless and wired mouse into one device.
ii. To reduce the problem faced while using computer wired and wireless mouse.
iii. To develop prototype Dual Function Mouse using electrical component.
iv. To apply alternative method inside the existing device with additional battery rechargeable function.

1.4 SCOPE

- Can be use in wired and wireless.
- The battery mouse can be recharge while the cable is plug in.
- The wireless range approximately up to 4.5 meter.
- The mouse can be use in wire without batteries in it.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will explain about the existing device that related with this project and the development of Dual Function Mouse. Studies on existing device have been done to find the comparison between the advantage and disadvantage of the existing device. This chapter likewise incorporates the depiction of improvement innovation, methodology and procedure decided to add to the project.

2.2 EXISTING DEVICE

There are two types of existing device which is wired mouse and wireless mouse. These two peripheral devices have different type of method to implement the same function to give an output to computer's users. These are comparison between two existing devices:

i. Wired Mouse
ii. Wireless Mouse

	Wired Mouse	Wireless Mouse
Batteries consumption	No	Yes
Fast response time	Fast	Faster
Free to move	Limit by cable length	Yes
Wireless interference	No	Yes
Cords	More than wireless	Less

Table 2.1 : Existing Device Comparison

2.3 EXISTING SYSTEM DESCRIPTION (Wired Mouse)

2.3.1 Advantages of system

i. More safe

Wired mouse does not use any wireless type. Hence, there is no possibility of inadvertently gaining control of someone else's computer.

ii. Save cost

This device use USB cable that plug into computers to consume power to operate. So, the user does not need to buy and replace the batteries as power supply whenever it run out of power like wireless mouse.

2.3.2 Disadvantages of system

i. Limited movement

Limit to the length of the USB cable. The user cannot go beyond the bounds of that cable, and if it's too short the user may have to end up moving your entire computer just to use your mouse.

ii. Twisted cables

The mouse cable can get in the way of users activities (which can be especially problematic for gamers), which causes the user to tug, pull, and reposition the USB cable.

2.4 EXISTING SYSTEM DESCRIPTION (Wireless Mouse)

2.4.1 Advantages of system

i. Free to move

The wireless mouse has more space to move rather than wired mouse because wireless mouse did not attach to any cable.

ii. Smoother movement

This tends to be the biggest draw for wireless users: There is simply no cord to get tangled up in when you're using a wireless mouse. This also tends to make them a bit more travel friendly, with fewer cords making a snarled mess in your carry-on bag.

2.4.2 Disadvantages of system

i. Need to spend more money on batteries

The mouse has to be powered somehow, which means the user going to be replacing the batteries every time they run low, which can end up costing you a significant amount of money in the long run.

ii. Wireless interference

Since the mouse is wireless it's susceptible to wireless interference. A lot of wireless interference with other devices, there is a chance that the mouse will not able to use.

2.5 FLOWCHART

i. Wired mouse flowchart.

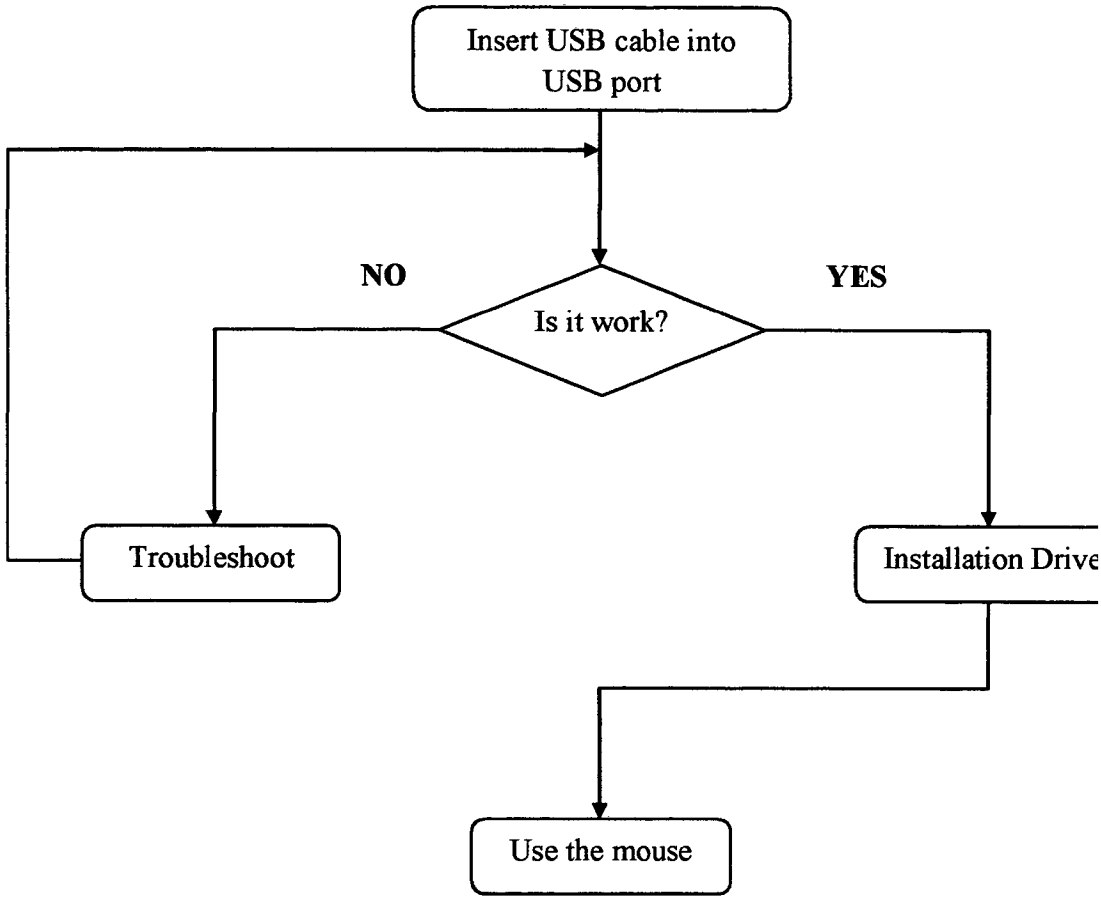

Figure 2.1 : Flowchart for wired mouse

ii. Wireless mouse flowchart.

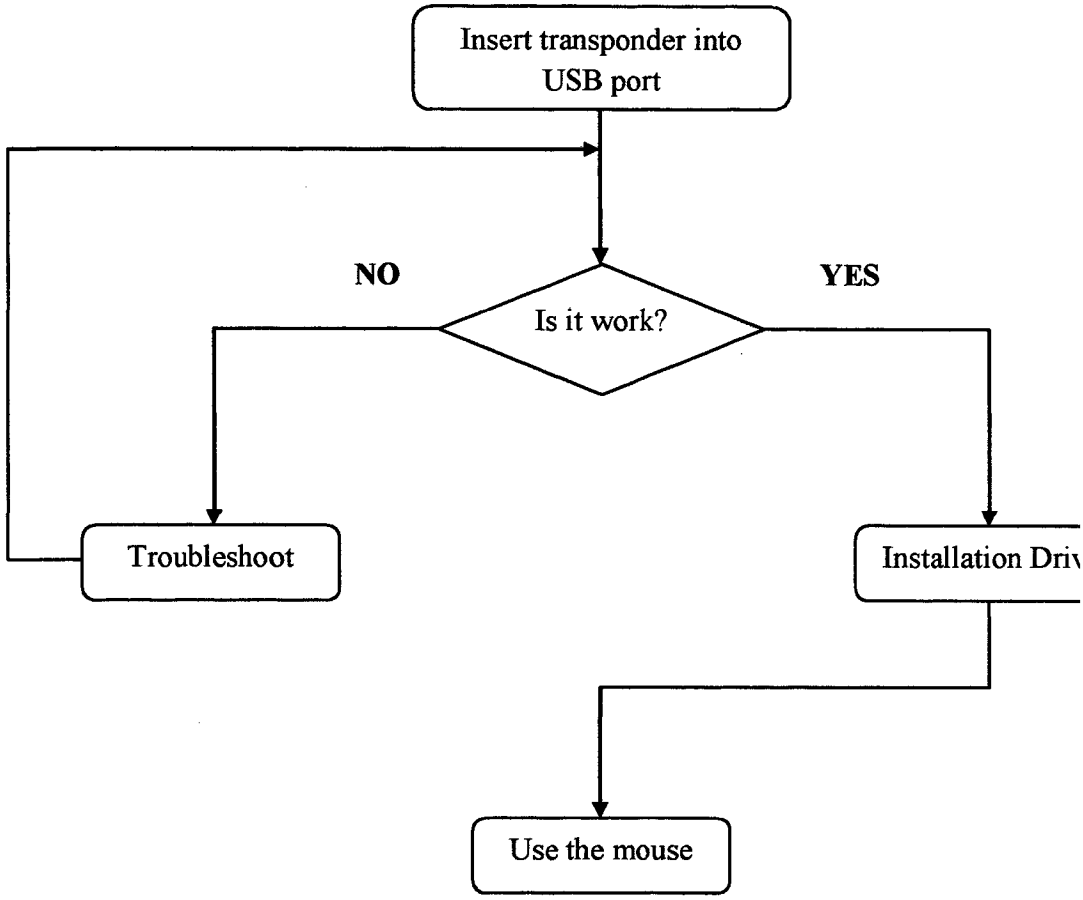

Figure 2.2 : Flowchart for Wireless mouse

2.6 CONCLUSION

For the conclusion, this chapter explained about the existing computer mouse pointing device. There are comparison between the existing device which some of them have the own advantages and disadvantages. Based on the explanation and the information on this chapter, this project is to improve and enhance the existing computer mouse pointing device better than existing device. By making computer mouse pointing device with dual function, it will help computer users to reduce their problem in terms of batteries usage, performance, limited range, flexibility and so on.

This new device can be used in two ways which is in wired and wireless. Besides that, by making this new dual function computer mouse pointing device, it will save money for computer users especially that using wireless mouse because this new device will charge the batteries while the computer users connect the USB cable to their laptop or PC. On the other hand, it will fulfill the needs of computer users in terms of computer mouse pointing device performance.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This chapter portrays the approach used to direct this study. Methodology is the investigation of an efficient process to recognize and summarize the arrangement of targets and strategies to alter, gather, and compute to discover a solution. In addition, this target tries to make a Dual Function Mouse and every process is to create, including a discourse of the strategy utilizing a system which is utilized to venture the arrangement tree. This approach is a procedure, benchmarks and rules to be taken after plainly included in creating a product or programming. The present study is made out of similarity could be in a predetermined time.

3.2 PROJECT METHODOLOGY

The methodology is essential when creating particular project. It is a pointer that can influence the general advancement of the task. An utilization of fitting procedure can control the designer through the whole work to address the issues of client. There are various sorts of systems that have been made via specialists, for example, the Rapid Application Development(RAD), it is the system development life circle (SDLC) ,waterfall model, structured systems analysis and design method (SSADM) and others.

To achieve all objectives for project Dual Function Mouse, the Rapid Application Development RAD model is the main methodology used in order to develop the system. The stages include: (1) Requirement Planning Phase, (2) Project Design Phase, (3) Development Phase, and (4) Implementation Phase. Figure 3.1 below is a software process model used to represent the different stages in software development in RAD.

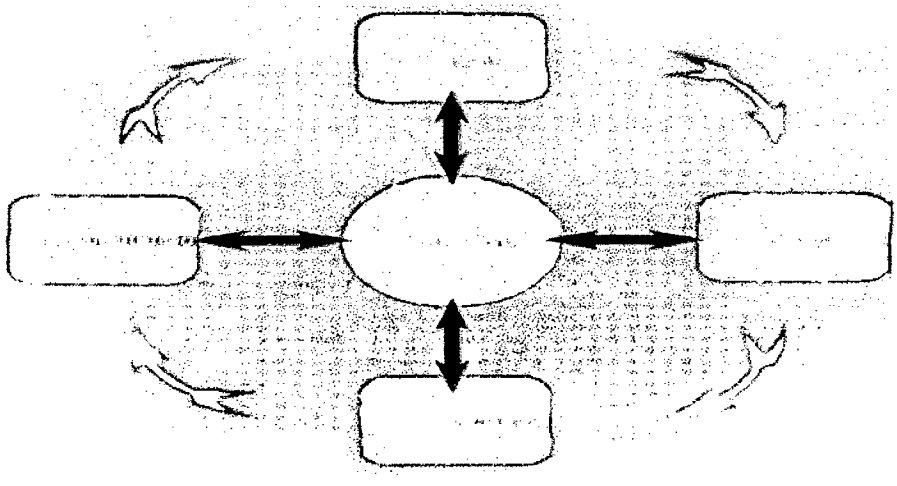

Figure 3.1 RAD model

3.3 SYSTEM ANALYSIS

Meaning of necessities is the most critical piece of this task. Need a clarification of what the framework ought to do. For this situation, the product's general structure and degree characterized and useful and non-practical prerequisites, what of the innovation, the basic outline of all the deliberate information for this situation.

The advancement of an instrument utilizing this computer's mice will be the start of the task by the test arrangement. Examination needed for this part will help to guarantee that purchasers comprehend the framework prerequisites either the client or the framework side. For this situation, the issue must settle the characterized venture. The most recent circumstance is dissected, and the objective of this task ought to be chosen.

3.4 SYSTEM PLANNING

The System Planning stage begins from characterizing the issue and extent of the venture. This movement is essential in giving the arranging stage. Plus, the following stride in this stage is to make the task plan so that the venture can be done legitimately. A point by point timetable utilization with errand and the action of portable cultivating framework is show in Gantt chart. The Gantt chart will be to apply in Microsoft task and it will be referred through the work and the time it will take. Additionally, it is to encourage and satisfy client needs completely. The strides taken are;

i. Using a string of innovative offices or exploration through the web to get more data about the framework to be produced

ii. Use systems for speaking with others to get more thoughts and new routines for experienced individuals as chiefs, instructors, architects and others to build up the project.

3.4.1 HARDWARE REQUIREMENTS

Hardware requirements are divided into developer hardware requirements and user hardware requirements. Developer hardware requirements refer to the hardware specification required for developer to develop Dual Function Mouse.

Hardware	Purpose
Soldering tool	To melt solder so that it can flow into the joint between two workpieces.
Solder	Used to join together metal workpieces and having a melting point below that of the workpiece(s).
Wire	To allow electricity flow into the components.
Voltmeter	To measure electrical potential difference between two points in an electric circuit.
Rechargeable batteries	Battery can be recharge.
Electrical components	To make a complete electric circuit.
Computer's mouse	To convert the mouse into dual function.
Micro USB cable	Connector between mouse and computers.

Table 3.1: Hardware requirement

The need to finish this undertaking and everything things need to be utilized as a part of the necessities examination ought to actualize and utilize the framework to guarantee the right working.

3.4.2 SOFTWARE REQUIREMENTS

Software requirements play a big role in term to complete this project.

Software	Purpose
Windows 7	Operating System
Microsoft Office Word 2010	Documentation
Microsoft Power Point 2010	Slide presentation
Microsoft Project 2010	Schedule and planning project
Microsoft Visio 2013	Design circuit scheme

Table 3.2: Software requirements

3.5 SYSTEM DESIGN

System and software design gives and overview Dual Function Mouse system design, and circuit design. In designing the system, flow is explained using flow chart. The circuit design is explained with computing sketch.

3.5.1 SYSTEM ARCHITECTURE

A construction modeling portrayal is a formal depiction and representation of a system, composed in a manner that backings thinking about the basic properties of the project. It characterizes the system parts or building pieces and gives an arrangement, from which items can be secured, and system built up, that willcooperate to actualize the general system.

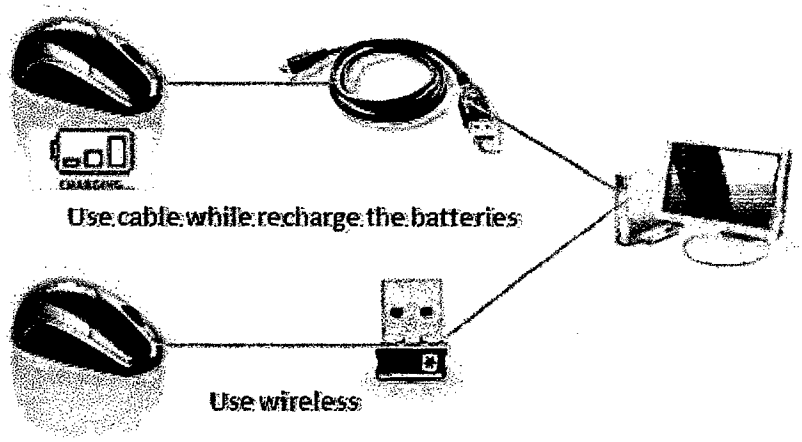

Figure 3.2 System Architecture